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Adult-perpetrated Animal Abuse: A Systematic Literature Review

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Abstract

Adults perpetrate the majority of animal abuse incidents yet clinicians are left with very little evidence base to advance/enhance their practice. The purpose of this systematic review is to synthesize and evaluate the current literature on adult-perpetrated animal abuse and to identify the etiological factors related to this type of offending. Twenty-three studies met the specific inclusion criteria but most importantly, they examined the characteristics of adult perpetrators of animal abuse. The findings from this review were demarcated by sample type: (1) participants were the perpetrators of the animal abuse or held offence-supportive attitudes; and (2) participants were victims of intimate partner violence reporting incidents of animal abuse perpetrated by their partner. From the perpetrator perspective, there were key developmental (i.e., maladaptive parenting strategies), behavioral (such as varied offending behaviors), and psychological (e.g., callousness, empathy deficits) factors highlighted in the literature. Finally, in the context of intimate partner violence, findings indicated that perpetrators abuse animals to control, coerce, intimidate and/or manipulate their victims (this effect is moderated by the victims' emotional attachment to their pet). This review inherently underlines treatment targets that could achieve greater clinical gains, but we also conclude that more empirical and theoretical work is needed in order to set an agenda that prioritizes future research and effective practice.

Keywords: animal abuse, animal cruelty, adult perpetrators, offending behavior, intimate partner violence

Adult-perpetrated Animal Abuse: A Systematic Literature Review

One of the most acute and distressing animal welfare problems is abuse carried out by adults. To date, the animal abuse literature has focused on child perpetrators so, as a result, researchers and practitioners are limited to an evidence base derived from a developmentally distinct offender group. The aim of this paper is to systematically review the literature regarding adult perpetrators of animal abuse with a specific focus on the etiological factors related to this type of offending. Before we embark on this review, we clearly define *animal abuse* to be “all socially unacceptable behavior that intentionally causes unnecessary pain, suffering or distress and/or death to an animal” (Ascione, 1993, p.83). Further, we distinguish cruelty from abuse whereby cruelty denotes some form of gratification and abuse does not (Rowan, 1999). Thus, abuse captures a broader range of underlying motivations for the offending behavior.

Conviction rates for animal abuse are low (e.g., the Royal Society for the Prevention of Cruelty to Animals [RSPCA, 2013] report approximately 3% of prosecutions result in convictions) due to the difficulties in collecting prosecutable evidence. That is, challenges emerge in the identification of animal abusers due to the nature of the offence whereby animals are *voiceless victims*. This makes strategizing and policy development limited if knowledge of the existence of a victim is difficult to ascertain. So, it is plausible that most animal abusers are undetected, unapprehended, and therefore, untreated. Researchers have had to rely more, in recent years, on community samples (e.g., student and national survey methods; Henry, 2004a, 2004b; Vaughn et al., 2009), that inadvertently provide an evidence base for community-mobilized programs. This has led to resources being invested in more preventative measures and community programs administered by charity-based organizations such as the Society for Prevention of Cruelty to Animals (a multi-national agency legislated to investigate and prosecute cases). But in order to ensure these measures are evidence-led, we need to have a consolidation of existing research findings in the form of a systematic review.

The behavioral correlates of animal abuse have also offered an avenue for empirical inquiry. That is, animal abuse has been identified as one of the abusive behaviors associated with intimate partner violence (IPV). Perpetrator motivations include: to control, manipulate, coerce and/or gain power over the partner victim (Allen, Gallagher, & Jones, 2006; Oleson & Henry, 2009; Simmons & Lehmann, 2007). In addition, animal abuse has been linked to a variety of violent and non-violent offending behaviors (Vaughn et al., 2009). As a result, researchers have endeavored to identify the static and dynamic characteristics of animal abusers, but less research has examined the motives driving the abuse outside the IPV context. And almost no research has focused on the broader social cognition and/or the self-regulatory processes facilitating/inhibiting animal abuse behavior. There are, however, evidenced empathy deficits and offence-supportive cognitive biases (Gullone, 2012, 2014), in addition to evidenced psychiatric comorbidity (Vaughn et al., 2009, 2011) that warrant further empirical examination.

The current emphasis in the literature on child perpetrators has inadvertently stunted progress toward theory and practice that is developmentally relevant to adults. There has been a recent emergence of empirical research examining the factors related to adult-perpetrated animal abuse, but still the literature base is lacking, and more importantly, there is yet to be a consolidation of existing studies to guide clinical practice and future directions for research. This systematic review of the literature is timely because, in its early stages, research into adult-perpetrated animal abuse has involved a large variation in research questions and methodology. So such a review may act as an aid in orienting researchers toward fine-tuning methods and identifying existing gaps in the literature. Therefore, in an effort to provide this aid, the purpose of this review is to consolidate and synthesize the etiological static and dynamic risk factors (i.e., the social, psychological, and behavioral characteristics) of adults who perpetrate animal abuse.

Method

Literature Search

To identify studies that examined the characteristics of adult animal abusers, a literature search was conducted on the following bibliographic databases: Scopus, Web of Science, PsychINFO, and Criminal Justice Abstracts. These databases were selected due to their broad repositories in the social sciences. The keywords used in the searches included ‘animal abuse’, ‘animal cruelty’, and ‘pet abuse’. Only articles published up to March 2016 were included in this systematic review. The initial search generated 25,743 hits. Full articles were selected for preliminary inclusion only if they met the following set of *a priori* criteria: (1) written in English; (2) published in a peer-review journal; (3) the focus of the article was to identify characteristics related to the perpetration of animal abuse by adults; (4) the article presented an empirical (quantitative or qualitative) study, rather than a review of the literature, so method and results could be reviewed.

Based on these criteria, the titles and abstracts of the initial search hits were examined leaving 276 manuscripts whereby animal abuse was examined within adult samples. Further studies were excluded due to a more thorough examination which yielded studies of retrospective accounts of child-perpetrated animal abuse ($n = 120$), unclear age of perpetration (e.g., lifetime prevalence; $n = 10$), or article duplicates ($n = 123$). This study selection process resulted in 23 studies to be included in the review which were independently evaluated by two researchers (see Figure 1 for selection process flowchart). No articles were identified through contact with experts. There was a clear delineation in the types of studies remaining: (1) studies where the participants were perpetrators of animal abuse and/or having offence-supportive attitudes; and (2) studies where the participants were IPV victims reporting incidents of animal abuse perpetrated by their partner. Both types of studies were included in this systematic review because both offer insights into the characteristics of the perpetrators, behavior, and context. First, the current paper will focus on the research designs used in order to highlight both common and unique methodological practices. This will be followed by the developmental,

behavioral, and psychological characteristics derived from perpetrator studies, ending with the key findings derived from intimate partner violence victim studies.

Results

Samples and Recruitment

To synthesize and evaluate the studies, a spreadsheet was developed where we extracted the following items: (1) manuscript authors, (2) sample characteristics, (3) study design/measures, and (4) key findings. Table 1 shows the details of the 23 studies used in this review. The majority of studies recruited participants from the United States (US; $n = 18$, 78.3%), with two studies recruiting from Australia (8.7%), two from the Republic of Ireland (8.7%), and one from the United Kingdom (4.3%). All but one of the studies recruited all-adult samples (95.7%). The one study was examining the care (and abuse) of pets in families with child abuse from the perspectives of both the adults and children in the families (DeViney et al., 1983). The review elicited all-female participant studies ($n = 14$, 61.0%), all-male studies ($n = 1$, 4.3%), and mixed gender studies ($n = 7$, 30.4%), and one study that was unclear but predominantly male (4.3%; Green, 2002).

Study Focus and Design

The studies could be delineated by the characteristics of the participants whereby nine studies (39.1%) examined the characteristics of animal abusers and people who endorse animal abuse behavior, 13 studies (56.5%) examined the experiences and characteristics of men, women, and children who have been victims of family and intimate partner violence including the abuse of animals, and one study (4.3%) examining the characteristics of both abusers and victims of interpersonal violence. Amongst the studies that focused on perpetrators of animal abuse (including the one study that included abusers and victims of abuse; $n = 10$), six studies (60.0%) compared the animal abusers to a control group. These studies recruited participants from the university student population ($n = 5$, 50.0%), the criminal justice system (i.e., prosecuted and/or incarcerated for animal abuse perpetration; $n = 2$, 20.0%) or court-referred due to related

offences ($n = 2$, 20.0%), and recruited via government social services ($n = 1$, 10.0%). All but one of the 14 studies focusing on victims of family and intimate partner violence including the abuse of animals (and including the one study examining both abusers and victims) recruited participants who were referred to or attended dedicated social services for victims of abuse ($n = 13$, 92.9%). The remaining study recruited participants from the community employing opportunity sampling techniques. Also, only one of these studies focusing on victims recruited a control group for comparisons. Finally, 16 (69.6%) of the studies included for review reported using self-report questionnaire measures, three (13.0%) studies reported using qualitative interviews, two (8.7%) studies used a combination of both quantitative and qualitative methods, and two (8.7%) studies relied on file reviews.

Measures of Animal Abuse Behavior and Offence-Supportive Attitudes

We included studies that measured both animal abuse perpetration and attitudes supporting animal abuse/cruelty. The offending behavior literature shows that members of the community who endorse offence-supportive attitudes (e.g., self-reported rape proclivity) share similar (if not the same) attitudes and beliefs as apprehended offenders (Bohner et al., 1998; Malamuth & Check, 1980). Of the 10 studies examining the characteristics of animal abusers and/or people who endorse attitudes supportive of animal abuse, two (20.0%) studies identified animal abusers from criminal records (i.e., participants had a criminal conviction of animal cruelty – Arluke et al., 1999; Green, 2002), two (20.0%) studies used self-report items/questionnaires to assess perpetration of animal abuse (Febres et al., 2012; Febres et al., 2014), three (30.0%) studies only assessed attitudes toward the treatment of animals (Alleyne, Tilston, Parfitt, & Butcher, 2015; Oleson & Henry, 2009; Raupp, 1999), and the remaining studies ($n = 7$, 35.0%) assessed both prior perpetration of animal abuse and attitudes toward the treatment of animals (DeViney et al., 1983; Erlanger & Tsytsarev, 2012; Gupta, 2008).

There were varying methodologies for the self-report assessment of animal abuse perpetration and supportive attitudes. One study developed items asking participants to self-

report engagement in animal abuse behavior (DeViney et al., 1983). Six of the studies reviewed used established scales/measures to assess animal abuse perpetration and offence-supportive attitudes (Alleyne et al., 2015; Erlanger & Tsytsarev, 2012; Febres et al., 2012; Febres et al., 2014; Gupta, 2008; Oleson & Henry, 2009; Raupp, 1999). To assess animal abuse perpetration, three scales were used: the Aggression Toward Animals Scale (Gupta & Beach, 2001), the adapted Boat (1999) Inventory on Animal-Related Experiences (Flynn, 1999), and the adapted version of Flynn's (1999) Experiences with Animals self-report survey (Henry & Sanders, 2007). To assess attitudes supportive of animal abuse, five scales were used: the Animal Abuse Proclivity Scale (Alleyne et al., 2015), the Emotional Toughness Toward Animals Scale (Gupta & Beach, 2002b), Rejection Sensitivity Toward Animals Questionnaire (Gupta & Beach, 2002c), the Animal Expagg (assessing social representation of aggression toward animals; Gupta & Beach, 2002a), and the Attitudes toward Animals Scale (Kellert, 1985, 1993).

Key Findings

As mentioned previously, the 23 studies included in this systematic review examined the characteristics of animal abusers from the perpetrators themselves ($n = 10$, 43.5%) and from IPV victims who witnessed their partners harm or threaten to harm animals ($n = 13$, 56.5%). The key findings of these studies will be presented as two sections: perpetrator studies and IPV victim studies.

Perpetrator studies. Upon reviewing the 10 studies (43.5%) that examined the characteristics of animal abuse perpetrators, there is a clear delineation of findings along static and dynamic factors pertinent to this abusive behavior. We find that the research findings to date highlight the developmental context, behavioral correlates, and psychological characteristics/traits featured amongst animal abusers.

Developmental context. There is one key study that examines the early predictors of animal abuse perpetration (Raupp, 1999), and it can be characterized as retrospective and correlational in design with a focus on experiences within the family/home environment).

Raupp (1999) examined the relationship between disciplining techniques during childhood and animal abuse potential (defined as adult pet abuse risk) in a nonclinical sample of university undergraduates. The childhood predictors examined included: parental threats to give away pet animals or actually giving away of pets, punishing both the child and pet together or for each other's behavior, and physical abuse of the pet animal perpetrated by parents. She found that parental threats to give away companion animals predicted animal abuse potential. Similarly, childhood experiences of giving away pets was linked to an increased likelihood of doing the same as an adult. Raupp theorized that threatening to give away pets (or actual disposal) as punishment socializes children on what constitutes "good behavior" in animals, so as adults, there are rigid expectations for this behavior. However, Raupp conceded that she did not measure the specific motivations and circumstances of the punishment, thus, the data cannot support this premise. Raupp also found a gender difference in the developmental trajectory of animal abuse behavior. That is, males were more likely to abuse animals as adults if they had negative family experiences as children.

These retrospective accounts of disciplinary techniques are correlated with a propensity to engage in animal abuse. We can also infer causality from Raupp's (1999) findings because when explicitly assessing adult perpetration "potential" (or rather, proclivity) she found that parental disciplinary practices (i.e., threatening to give away household pets) were predictive of animal abuse potential during adulthood. However, without a rigorous, longitudinal design we still do not know the causal/temporal process (Gannon et al., 2008; Polaschek et al., 2001) of animal abuse behavior development.

Behavioral correlates. Animal abuse behavior is argued to be one aspect of a multi-faceted repertoire of offending. For example, Henry (2004a, 2004b) argued that early exposure to animal abuse impacts on a person's psychological functioning more broadly (e.g., decreased empathetic concern for living beings generally) rather than animal-specific. As such, there were five studies (50.0% – Arluke et al., 1999; DeViney et al., 1983; Febres et al., 2012; Febres et al.,

2014; Green, 2002) that examined the link between animal abuse and other types of aggressive and antisocial behaviors.

Of the studies that examined the relationship between animal abuse and antisocial/illegal behavior, there were consistent and robust findings that animal abusers are typically more antisocial than non-abusers (Arluke et al., 1999). Using file data from the Massachusetts Society for the Prevention of Cruelty to Animals (MSPCA) and state criminal justice records, Arluke et al. (1999) examined the criminal histories of accused perpetrators of animal abuse. In their study, they compared 153 individuals who had been prosecuted for one or more acts of animal abuse with a control group of individuals matched by age, gender, and place of residence (a proxy for socioeconomic status and race/ethnicity). They found that animal abusers were 3.2 times more likely to have committed one or more criminal offences when compared to the control group. Furthermore, Arluke et al. (1999) found animal abusers to be *generally deviant*, whereby they were more likely to have also engaged in property offences, drug offences, public disorder offences, and violent offences. Arluke et al. (1999) argued that their results provided empirical support for the *deviance generalization hypothesis* rather than the *violence graduation hypothesis* because not only did they find animal abusers to also perpetrate a wide variety of criminal offences, they also found that animal abuse behavior was no more likely to precede than follow the other offending behaviors.

The only study on animal abuse perpetrators with an all-female sample was part of a larger study examining the characteristics of women who were court-referred for domestic violence perpetration (Febres et al., 2012). Febres et al. (2012) found 17% of their sample to have perpetrated at least one animal abuse offence since the age of 18. Further, they found that animal abuse behavior was correlated with severe physical assault/aggression (example item: “punched or hit my partner with something that could hurt”) but not severe psychological aggression (example item: “destroyed something belonging to my partner”). Due to limited sample size, more nuanced and robust analyses were not conducted. However, Febres et al.

(2012) argued their findings were indicative of more generalized aggression tendencies, which could be attributed to the aforementioned decreased empathetic concern for all living beings, rather than specific or targeted individuals/animals.

Febres et al. (2014) conducted a mirror study examining the relationship between intimate partner violence (IPV) and animal abuse using a male sample. They found that 41% of their sample (as opposed to 17% of females above) had self-reported engaging in at least one act of animal abuse. They also found animal abuse perpetration to be correlated with both physical and psychological aggression within the context of IPV and alcohol use, offering further support for the deviance generalization hypothesis. These two studies offer comparative insights into the question of gender and animal abuse perpetration. We can see that higher proportions of males perpetrate animal abuse when compared to females and there is one distinction in the heterogeneity of aggression. That is, psychological aggression was correlated with animal abuse only amongst the males, not the females.

Continuing on in the context of IPV, DeViney et al. (1983) also examined the co-occurrence of animal abuse and child abuse in the household. They found that 60% of households with reported child abuse also had reported incidents of animal abuse. They argued that animal abuse could be an indicator of varied forms of family violence and abuse.

The only study that examined abuse of animals not kept as pets was Green's (2002) study of "freeze-killing" – defined as "a particularly unsporting form of poaching that involves shining the deer with a spotlight at night, freezing her or him to facilitate an easy kill" (Green, 2002, p. 9). Still fitting within the scope of this review, in simplest terms, because this type of hunting is illegal, thus socially unacceptable (Ascione, 1993). The aim of this study was to test Gottfredson and Hirschi's (1990) *general theory of crime*, a parent theory to the *deviance generalization hypothesis*. Similar to Arluke et al.'s (1999) study, Green (2002) conducted a criminal case file review to examine group differences between (1) a *study group* including persons who had been convicted of actual freeze-killing or attempted freeze-killing, and (2) a *control group* including persons matched

for age, sex, and race, based on estimates of a national population from the time period of the case file review. Their findings also support the deviance generalization hypothesis, whereby freeze-killers were more likely to have other criminal convictions (i.e., violent and property crimes). What these findings highlight is that no matter the type of animal abuse, there is still a link with broader antisocial behavior and deviance.

The studies reviewed here unequivocally support the notion that animal abuse is but one offending behavior amongst others found in those who abuse animals. Interestingly, there are explicit links to theoretical explanations (i.e., deviance generalization hypothesis), however, limited predominantly to the behavioral, single factor theories with limited understanding of more complex multi-factor/multi-faceted relationships.

Psychological characteristics. Six studies (60.0%) examined the psychological characteristics and traits related to animal abuse perpetration and/or supportive attitudes (Alleyne et al., 2015; Erlanger & Tsytsarev, 2012; Febres et al., 2014; Gupta, 2008; Oleson & Henry, 2009; Raupp, 1999). These studies focus on the facilitative effects of offence-specific attitudes, antisocial cognition, and personality traits/tendencies.

There have been methodological advances in the literature that have resulted in research questions to be examined using nonclinical samples. Alleyne et al. (2015) and Raupp (1999) adapted and devised scales assessing the propensity to engage in animal abuse. Raupp (1999) adapted the Child Abuse Potential Scale (Milner, 1994) to the Pet Abuse Potential Scale and found that it correlated strongly with measures of animal abuse perpetration. Raupp (1999) found that animal abuse potential was correlated with a lack of moral concern for animals, utilitarian attitudes (i.e., animals are used to achieve goals), and dominion attitudes (i.e., animals are to be mastered). Also, Raupp (1999) found men to exhibit higher pet abuse potential than women, mirroring existing literature.

Alleyne and colleagues (2015) drew upon the vignette-style proclivity scales seen in related literatures (e.g., rape – Bohner et al., 1998; child molestation – Gannon & O'Connor,

2011) to develop the Animal Abuse Proclivity Scale. While they did not examine the scale in relation to actual perpetration, they did find expected patterns of results with other constructs. That is, (1) men exhibit a higher proclivity toward animal abuse than women; (2) animal abuse proclivity was related to negative attitudes toward the treatment of animals, and (3) animal abuse proclivity was related to lower levels of empathy. They also found similar patterns of responding across their UK and US samples indicating some cross-national validity of the scale.

In light of research on behavioral correlates reviewed, further research examined the relationship between animal abuse perpetration and non-specific anti-social cognition (further supporting the deviance generalization hypothesis). For example, Febres et al. (2014) found antisocial personality traits (example item: “I’ve been in trouble with the law several times [or would have been if I was caught]”) to be positively correlated with animal abuse perpetration. However, this is to be expected in their sample of men who were court-referred to Batterer Intervention Programs. This finding is also complementary to the studies conducted in the context of intimate partner violence such as Febres et al. (2014), for example, and is further supported by Gupta’s (2008) findings that interpersonal constructs such as rejection sensitivity (i.e., a perceptual bias toward rejection from others typically resulting in a disproportionate emotional response) is related to animal abuse perpetration.

There is a well-established link between animal abuse and (lack of) empathy and callous traits (Alleyne et al., 2015; Erlanger & Tsytsarev, 2012; Gupta, 2008). With the exception of Gupta (2008), these studies examined, specifically, the relationship between interpersonal (or, rather, human-human) empathy and animal abuse perpetration or proclivity. They found that, on average, individuals with empathy deficits were more prone to engaging in animal abuse. Gupta (2008), however, was the first (and only) to study both human-human callousness and human-animal callousness. She found the two constructs to be highly correlated, as expected, and associated with instrumental (i.e., “taking control”) rather than expressive (i.e., “losing control”; see Campbell, Muncer, McManus, & Woodhouse, 1999) representations of aggression. But what

is interesting is the gender difference she found. For men, the best predictor of animal abuse perpetration was callousness with no significant mediators; whereas, for women, in her sample, the callousness–animal abuse relationship was partially mediated by instrumental representations of aggression. This finding fits in with the broader IPV context, of which this study was situated, whereby, motivations for engaging in animal abuse involves the manipulation or coercion of another. These psychological findings are indicative of the complex motivations for animal abuse perpetration and offer evidence for methodological (i.e., animal abuse proclivity/potential measures) and theoretical (i.e., human-human versus human-animal constructs) advances for future research.

IPV victim studies. The context most prominent in the literature reviewed was in the domestic setting/household. Thirteen studies (39.4%) examined the experiences of victims of family and intimate partner violence (Allen et al., 2006; Ascione, 1998; Ascione et al., 2007; Carlisle-Frank et al., 2004; Flynn, 2000a, Flynn, 2000b; Gallagher et al., 2008; Hardesty et al., 2013; Loring & Bolden-Hines, 2004; Simmons & Lehmann, 2007; Strand & Faver, 2005; Tiplady et al., 2012; Volant et al., 2008), and one study (3.0%) examined the experiences of both perpetrators and victims of family violence (DeViney et al., 1983). It was reported across all studies that victims witnessed their partners/care-givers make threats or commit actual acts of harm to pet animals, and DeViney et al. (1983) reported that child abuse and animal abuse co-occurred in 60% of families referred to services for child abuse. The motivation for engaging in animal abuse was to control, coerce, and/or manipulate the victims (Allen et al., 2006; Flynn, 2000a; Gallagher et al., 2008; Hardesty et al., 2013; Loring & Bolden-Hines, 2004; Simmons & Lehmann, 2007) and this effect was moderated by the victims' emotional attachment to their pet (Flynn, 2000a, Flynn, 2000b; Hardesty et al., 2013; Strand & Faver, 2005). This controlling behavior was cited as reasons for the victims' reluctance to leave the household (Flynn, 2000a) and their own perpetration of criminal behavior (Loring & Bolden-Hines, 2004).

There have been two theoretical propositions (though not necessarily mutually exclusive) put forth to explain the socio-cognitive facilitation of animal abuse generated from this literature. First, companion animals are seen as objects/property rather than living beings (Carlisle-Frank et al., 2004). This distinction enables the perpetrator to minimize and/or disregard any cognitive dissonance resulting from the animal abuse behavior. This distinction is also akin to the dehumanization literature. That is, we empathize with those we perceive to exhibit qualities like us such as thoughts and feelings (Giner-Sorolla, Leidner, & Castano, 2012). But the process of dehumanization (i.e., the stripping away of uniquely human qualities) disinhibits us so we can engage in violent behavior without cognitive distress/anxiety (Haslam, 2006, 2014), and this process has been directly used to explain animal abuse behavior (Gullone, 2012).

Second, animal abuse behavior has been conceptualized as one form of aggression amongst others perpetrated by abusers (Carlisle-Frank et al., 2004; Simmons & Lehmann, 2007). This theoretical explanation is in keeping with the deviance generalization hypothesis which posits that animal abusers are likely to engage in other types of offending behavior (Arluke et al., 1999). A key finding in Simmons and Lehmann's (2007) study was that perpetrators of animal abuse also engaged in acts of sexual violence, marital rape, emotional violence, stalking, amongst other forms of aggression. Whereas, Carlisle and colleagues (2004) found that animal abusers are generally primed to act aggressively, so animal abuse is just one type of expression of that aggression.

Thus, the literature examining the reports from IPV victims on animal abuse have generated developments in theory. These theories explain (a) how perpetrators may have distorted perceptions of the sentient qualities of animals, and (b) why animal abuse is typically accompanied by other aggressive behaviors. However, the main limitation of these studies is the hear-say nature of the data. That is, we are relying on what the IPV victims think are the reasons for the abuse. Nevertheless, the impact the animal abuse has on the victims does give us some indication of some of the underlying psychological mechanisms at play.

Discussion and Future Directions

In summary, 23 studies met the inclusion criteria for this systematic review. Upon examination, the studies were delineated by sample type. Nine studies examined the characteristics of animal abusers and/or participants with offence-supportive cognition, 13 studies focused on self-reports of victims of intimate partner violence (i.e., the perpetrators engaged in animal abuse), and one study examined the characteristics of both perpetrators and victims of intimate partner violence. However, in total, 16 studies (13 victim based studies, two perpetrator studies, and the sole victim/perpetrator study) focused on the context of intimate partner violence.

The findings from the studies on perpetrator characteristics can be demarcated into developmental, behavioral, and psychological features that either predict, correlate, and/or facilitate animal abuse behavior. The findings indicate that specific types of childhood experiences (e.g., maladaptive parenting styles) are strong predictors of animal abuse perpetration during adulthood. The theoretical argument has been that these experiences impact on the socio-psychological development of constructs such as empathy, moral decision-making, and self-regulation. For example, Henry (2006) argued that the perpetration of animal abuse can be construed as a coping mechanism for these past traumatic experiences. This argument is well placed in the existing literature whereby the household/family environment impacts on the development of self-regulation (Eisenberg, Smith, & Spinrad, 2011).

Further findings indicate that animal abuse is one of many antisocial behaviors perpetrated in the studies examined and there is no clear evidence for temporal ordering as suggested by the violence graduation hypothesis (e.g., Arluke et al., 1999; Green, 2002). The co-occurring antisocial behaviors include property offences, drug offences, and other types of violence/aggression. This has been further substantiated by Walters' (2013) meta-analysis where he found that animal abuse correlated with non-violent offending as much as violent offending. There was no support for a specific relationship between animal abuse and violent offending. So,

arguably, if childhood experiences impact on psychological functioning broadly (as suggested by Henry [2006]), then the sequelae of such development is a broad repertoire of antisocial behavior, as the studies reviewed appears to support.

Six studies examined the psychological characteristics of perpetrators of animal abuse and/or individuals who endorse supportive attitudes. More specifically, these studies investigated the facilitative effects of propensity/proclivity to engage in animal abuse and personality traits (i.e., antisocial, callousness, empathy). The underlying motivational components of the personality features that emerged from the studies reviewed appear to be supportive of the proposition posed by Henry (2006). That is, the psychological functioning of animal abusers is broadly impacted (presumably by childhood experiences) which is why these findings are indicative of multi-faceted deficits in regulatory processes.

Important considerations to make are the similarities and differences of men and women who perpetrate animal abuse or who hold the supportive attitudes. In line with the broader offending literature, men are more likely than women to report animal abuse perpetration (Febres et al., 2012; Febres et al., 2014) and proclivity or propensity to engage in animal abuse (Alleyne et al., 2015; Raupp, 1999). In the two mirror studies, Febres and colleagues (2012, 2014) found a significant relationship between animal abuse and physical aggression. However, the relationship between animal abuse and psychological aggression was only found in the men (Febres et al., 2014). This distinction complements Gupta's (2008) finding where animal abuse is more "instrumental" in nature amongst women suggesting a distorted strategy for self regulation.

Finally, the findings derived from the victim studies reviewed indicate a thematic clustering of motivations for animal abuse. That is, in an attempt to control, coerce, intimidate, and manipulate their victims, IPV perpetrators abuse animals, and this relationships is moderated by the victims' emotional attachment to their pet animals. Carlisle-Frank et al. (2014) proposed two theoretical explanations: (1) the pet animals are seen as property/objects which minimizes cognitive dissonance; and (2) the animal abuse is one form of aggression amongst others (as

articulated by the deviance generalization hypothesis). Both of these propositions imply maladaptive regulation, for example, via cognitive processes such as employing neutralizing or sanitizing techniques (e.g., Sykes & Matza, 1957; Bandura, 1991).

The findings of this review indicate a very limited understanding of the various contexts in which animal abuse occurs. There is a clear emphasis on the IPV context. Presumably, this is the case because the victims of IPV are capable to report on the characteristics and features of the animal abuse. Green (2002) was the sole other study that examined the context in which the animal abuse was perpetrated (i.e., freeze-killing). Alleyne et al. (2015) based the vignettes of their proclivity scale along two types of contexts, direct and indirect. Indirect animal abuse was characterized by a person's motivation to perpetrate animal abuse to aggress toward another individual (e.g., the IPV context); whereas, direct animal abuse was characterized by a person's motivation to perpetrate animal abuse to aggress toward the animal itself for a perceived provocation. The findings from this review, however, highlight the limited empirical support for the latter scenario. Further, the theoretical developments thus far do not account for these varying motivations.

After reviewing these studies, the main theoretical developments or underpinnings appear to consist of single factor theories that predominantly focus on the uni- or multi-faceted nature of offending behavior in animal abusers. For example, the violence graduation hypothesis (although it has not received emphatic empirical support) focuses on the developmental trajectory of animal abuse perpetrated during childhood and the outcome of human-directed violence during adulthood. The competing theory posed, the deviance generalization hypothesis, has been supported by the research findings so far but is limited to the single factor of offending behavior. However, as posed by Green (2002), the deviance generalization hypothesis has its roots in *control theory* (derived from criminology literature) which encompasses a broader range of developmental, social, and behavioral factors (as proposed by Gottfredson & Hirschi, 1990). It appears there is yet to be proposed an explanatory, multi-factor theory of animal abuse

perpetrated by adults. We would propose that the research findings to date could be knitted together into an integrated theory of animal abuse that accounts for developmental, behavioral, psychological, psychopathological features across the various contexts/motivations (e.g., indirect versus direct as proposed by Alleyne et al., 2015). And such a multi-factor theory would present testable hypotheses for future research. For example, this research area would benefit from rigorous, longitudinal designs to unpack the causal pathways towards animal abuse behavior. At present, we are unclear as to whether specific cognitions precede animal abuse behavior, or if this type of behavior leads to the development of these offence-supportive attitudes and beliefs.

Conclusions

The literature on adult-perpetrated animal abuse, relative to other offending behaviors, is scant but in early development. This review consolidates the findings of the studies in a way that paints an outline picture of the factors with clinical significance and importance. Practitioners can focus on these clinically relevant factors but should be cautious given the limited evidence base. There is much empirical and theoretical work needed in order to formalize these findings into an effective treatment strategy.

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Table 1

Details of studies included in the systematic review

Authors	Sample <i>(Sample Size, Gender, Age, and Recruitment Characteristics)</i>	Design/Measures	Key Findings
Allen, Gallagher, & Jones (2006)	n = 23 All female adult sample No information on mean age reported Recruited from three women's refuges (Republic of Ireland)	Experiences of threats or abuse of pet(s) (devised for this study), Motivations of Abuse (devised for this study), Effects of Animal Abuse on Women (devised for this study), Need for Animal Facilities (devised for this study)	Findings indicated that all women had pets at the time that they were abused, with more than half (n = 13) witnessing threats or abuse to their companion animal from their partner Control was identified as a principal motivation for the abuse of their pets
Alleyne, Tilston, Parfitt, & Butcher (2015)	n = 213 Males, n = 90; Females, n = 123 Mean age = 37.10 (SD = 13.30) Recruited from a university population (UK)	Animal Abuse Proclivity Scale (AAPS; Alleyne et al., 2015), Attitudes toward the treatment of Animals Scale (ATTAS; Henry, 2004), Empathy Quotient Short Version (EQ-SV; Baron-Cohen & Wheelwright, 2004; Wakabayashi et al., 2006), Anthropomorphic Tendencies Scale (ATS; Chin et al., 2005)	Attitudes that support the mistreatment of animals and low levels of empathy were related to an interest in animal abuse

<p>Arluke, Levin, Luke, & Ascione (1999)</p>	<p>Animal abusers (i.e., prosecuted for at least one form of animal cruelty), n = 153; Matched control, n = 153 Male abusers, n = 146; Female abusers, n = 7 Mean age = 31, Under 21, n = 88 (58%), above 21, n = 65 (42%) Animal abuser data extracted from Massachusetts Society for the Prevention of Cruelty to Animals (MSPCA) records, and the offender control group was selected from criminal records based on matched selection criteria (USA)</p>	<p>All criminal records for abusers and controls were tracked in the state's criminal justice records system, and compared.</p>	<p>Results suggested that animal abusers were significantly more likely to be involved in some other form of criminal behavior and have a criminal record, specifically violent criminal records, than non-animal abusers However, animal abuse was no more likely to proceed than follow either violent offenses or non-violent offenses. This does not support the violence graduation hypothesis.</p>
<p>Ascione (1998)</p>	<p>n = 38 All female adult sample Mean age = 30.2, Age range = 20-51 Recruited from a shelter for battered partners (USA)</p>	<p>Battered Partner Shelter Survey (BPSS), Pet Maltreatment Assessment (Ascione & Weber, 1995)</p>	<p>Victims of domestic violence are often witnesses to their partner either threatening to or actually harming or killing one or more of their pets Over half reported actual harm or killing of the pet by the partner</p>

<p>Ascione et al. (2007)</p>	<p>n = 221 All female adult sample Shelter females, n = 101, Non-shelter females, n = 120 Shelter females mean age = 31.7 (SD =7.95, range = 17-51), Non-shelter females mean age = 32.5 (SD = 9.89, range = 19-57) Recruited from domestic violence shelters or through convenience sampling from the local community (USA)</p>	<p>Conflict Tactics Scale (CTS; Straus, 1979), Battered Partner Shelter Survey (BPSS), and Families and Pets Survey (Ascione & Weberm 1995)</p>	<p>Shelter females significantly more likely to report threats to hurt or kill pets and actual hurting or killing of pets than non-shelter females. Strongest predictors for actual harm to or killing of pets were shelter status and severe physical violence perpetrated by the batterer.</p>
<p>Carlisle-Frank, Frank, & Nielson (2004)</p>	<p>n = 48 All female adult sample Age range = 21-41 Recruited from domestic violence shelters (USA)</p>	<p>The Sentient Scale, the Hassles-Stressors Scale, the Unrealistic Expectations Scale (scales devised for this study)</p>	<p>53% of participants said their batterers often also abused their pets Pet abuser batterers were described as more likely to see pets as property, compared to non-pet abuser batterers who saw pets as family members Participants indicated that pet abuser batterers scapegoat the family pet more often (35%) than non-pet abuser batterers (7%) Pet abuse batterers were described as having more unrealistic expectations of pets compared to non-pet abuse batterers. Pet abuse batterers were described as more likely to be "set off" by pets' behavior than non-pet abuse batterers</p>

DeViney, Dickert, & Randall (1983)	n = 53 families No information on sample breakdown by gender Mean age (adult respondents) = 33.25 Recruited from government social services (USA)	Structured interview schedule measuring demographic characteristics, methods of pet care, attitudes toward pets, pet ownership practices	Child abuse and abuse of pets co-occurred in 60% of families Abusive families had younger pets, lower levels of veterinary care, and more conflicts over animal care than non-abusive families Animal abusers and child abusers reported deep affection for their victims
Erlanger & Tsytsarev (2012)	n = 241 Males, n = 61; Females, n = 180 Mean age = 20.40 (<i>SD</i> = 3.76; range = 18-46) Recruited from two university campuses (USA)	Interpersonal Reactivity Index (IRI; Davis, 1980), International Personality Item Pool (IPIP; Goldberg, 1999), Attitudes Toward the Treatment of Animals Scale (ATTAS; Henry, 2004), Boat Inventory of Animal-Related Experiences (BIARE; Boat, 1999), Aggression Toward Animals Scale (ATAS; Gupta & Beach, 2001), Marlowe-Crowne Social Desirability Scale (M-C SDS; Crowne & Marlowe, 1960)	Higher levels of empathy positively related to more positive attitudes toward animals Empathy correlated with general and specific attitudes toward animals. Empathetic concern (EC), personal distress (PD) and perspective taking were significantly negatively correlated with attitudes toward animal cruelty (i.e., less empathetic concern correlated with pro-animal cruelty attitudes) EC and PD were significantly correlated with animal neglect Low empathy levels result in less distress toward animal cruelty than high levels of empathy

Febres et al. (2012)	n = 87 All female adult sample Mean age = 30.5 (<i>SD</i> = 10.27) Recruited from court referrals to Batterer Intervention Programs (USA)	Revised Conflict Tactics Scale (CTS2; Straus, Hamby, Boney-McCoy, & Sugarman, 1996), Aggression Toward Animals Scale (ATAS; Gupta & Beach, 2001)	17% of participants reported committing at least one act of animal abuse during adulthood Animal abuse perpetration was correlated with the perpetration of severe physical assault toward partners No significant difference between women who abused animals and those who do not, on frequency of IPV perpetration Animal abusers reported more frequent psychological aggression and physical assault perpetration in their relationship than women who did not abuse animals
Febres et al. (2014)	n = 307 All male adult sample Mean Age = 33.1 years (<i>SD</i> = 10.2) Recruited from court referrals to Batterer Intervention Programs (USA)	Revised Conflict Tactics Scale (CTS2; Straus, Hamby, Boney-McCoy & Sugarman, 1996), Aggression Toward Animals Scale (ATAS; Gupta & Beach, 2001), Personality Diagnostic Questionnaire-4 (PDQ-4; Hyler et al., 1988), Alcohol Use Disorders Identification Test (AUDIT; Saunders, Aasland, Babor, de la Fuente & Grant, 1993)	Adulthood animal abuse was positively associated with IPV perpetration Adulthood animal abuse was significantly associated with the perpetration of severe psychological aggression and physical assault above and beyond ASPD traits and alcohol use.
Flynn (2000a)	n = 10 All female adult sample Age range = 22-47 Recruited from a shelter for battered women (USA)	Semi-structured interview	Men employed many forms of abuse onto the battered women's companion animal. Often this animal abuse was used to control, hurt or intimate their female partners, and sometimes, their children Concern for pets delayed women from leaving batterers

Flynn (2000b)	n = 107 All female adult sample Mean age = 32.4 (range = 17-61) Recruited from a shelter for battered women (USA)	Nine-question survey concerning women's experiences with pets (devised for this study)	Women with pets were more likely to report that their male abuser had threatened to harm and/or had actually harmed their pet Women whose companion pets had been abused were less likely to have children than women whose pets had not suffered abuse, and somewhat less likely than abused women without pets Women whose pets had been abused indicated a stronger emotional attachment to their pet than women whose pets had not been abused
Gallagher, Allen, & Jones (2008)	n = 23 All female adult sample No information on mean age reported Recruited from three women's refuges (Republic of Ireland)	Experiences of abuse of their pet(s) and the nature of the threats and/or abuse, participants' perceptions of their partners' motivation for animal abuse (items devised for this study)	Interconnection between abuse of women and the intentional abuse of companion animals Participants indicated that the primary motivation for partners' animal abuse behavior was to control and/or manipulate the participants and/or their children
Green (2002)	n = 365 No detailed information on gender breakdown and mean age reported Animal abuser data extracted from government records (USA)	No. of arrests/ type of crime	In support of the deviance generalization hypothesis, the age distribution of freeze-killing mirrors the age-crime distribution from the wider offending literature; and freeze-killers had almost twice the rate for violent crime and almost three times the rate for property crime when compared to the control group

Gupta (2008)	n = 427 Males, n = 228; Females, n = 199 Mean age = 19.74 (SD = 2.08) Recruited from a university population (USA)	Emotional Toughness Scale (ETS; Beach, 2001), Emotional Toughness Toward Animals Scale (ETAS; Gupta & Beach, 2002b), Rejection Sensitivity Questionnaire (RSQ; Downey & Feldman, 1996), Rejection Sensitivity Toward Animals Questionnaire (RSAQ; Gupta & Beach, 2002c), Revised Short Expagg (Campbell et al., 1992), Animal Expagg (Gupta & Beach, 2002a), Revised Conflict Tactics Scale (CTS2; Straus, Hamby, Boney-McCoy & Sugarman, 1996), Aggression Toward Animals Scale (ATAS; Gupta & Beach, 2001)	Callousness, rejection sensitivity and instrumental and expressive representations of aggression are important factors related to how humans perceive and interact with animals Primary predictor of male violence toward both animals and partners may be callousness Instrumental representations of aggression predicted animal abuse in females, but not interpersonal violence Rejection sensitivity predicted interpersonal violence for females Interpersonal violence and animal abuse functionally interconnect however the perpetration of animal abuse serves a differing function in males and females
Hardesty et al. (2013)	n = 19 All female adult sample Mean age = 39.8 (range = 21-56) Recruited from a domestic violence shelter (USA)	Semi-structured interview	Women whose abusers reportedly used pets as a control tactic were also closely bonded to their pet Women whose abusers did not use pets as a control tactic reported less close bonds with pets
Loring & Bolden-Hines (2004)	n = 107 All female adult sample Mean age = 31 (range = 16-73) Recruited from specialist services (USA)	Battered Partner Shelter Survey (BPSS), Pet Maltreatment Assessment (Ascione & Weber, 1995)	75% of women who owned pets reported actual and threatened pet abuse. In all cases there was at least one occurrence of actual physical abuse to the pet, followed by numerous instances of threatened abuse at a pet Of the 54 reporting pet abuse, 24 experienced coercion in the form of threats and actual harm to animals in

			order to force the women to commit illegal acts
Oleson & Henry (2009)	n = 198 Males, n = 100; Females, n = 98 Mean age = 22.14 (<i>SD</i> = 5.78) Recruited from a university population (USA)	Need for Power: Index of Personal Reactions (IPR, nPower subscale; Bennett, 1988), Positive and Negative Affect Schedules (PANAS-X; Watson & Clark, 1994), Attitudes toward the treatment of animals scale (ATTAS; Henry, 2004a, 2004b, 2006)	Male participants: Sadness, Hostility, Fear, and Fatigue, in addition to need for power, were significantly correlated with cruelty attitudes When relationships among these variables were controlled, only Hostility and need for power were unique predictors of cruelty attitudes There was a significant interaction, with Hostility being related to cruelty attitudes only among low need for power men Female participants: only Serenity was correlated with cruelty attitudes

Raupp (1999)	n = 160 Males, n = 49; Females, n = 111 No information on mean age was recorded Recruited from a university population (USA)	Adapted child abuse potential scale (Milner, 1994; revised to assess the potential for animal abuse during adulthood), Attitudes toward animals (Kellert, 1985, 1993), Extent to which children and pets punished (devised for study), Morality, utility and dominion attitudes (devised for study), Attachment scale (devised for this study)	Adult animal abuse potential was significantly related to childhood experiences of parental threats of or actual giving away of pets as forms of discipline Males scored significantly higher on animal abuse potential than females; males were also more likely to abuse animals as adults if they had a more negative family atmosphere as children Lack of moral concern for animals (moral attitude), utilitarian attitudes toward animals, and dominion attitudes toward animals (i.e., beliefs that one can control/master animals) were significantly related to animal abuse potential
Simmons & Lehmann (2007)	n = 1,283 All female adult sample No information on mean age recorded Recruited from a domestic violence shelter (USA)	Presence and severity of pet abuse (devised for this study), Type of partner abuse behaviors (devised for this study), Checklist of Controlling Behaviors (CCB; Lehmann, 1998)	Animal abusers are more likely to take part in sexual violence, marital rape, emotional violence, stalking and other forms of aggressive violence Animal abusers are more likely to demonstrate a greater use of controlling behaviors than non-abusers
Strand & Faver (2005)	n = 51 All female adult sample Mean age = 38 (SD = 9.22; range = 22-57) Recruited from two domestic violence shelters (USA)	Pet Abuse Survey (Ascione, 1998; Flynn, 2000), Semi-structured interview	Batterers often harm, threaten and/or kill their partners pets Battered women are concerned for pets whilst in abusive relationship and after entering a shelter

Tiplady, Walsh, & Phillips (2012)	n = 26 All female adult sample Age ranges: 26-30, n = 2; 31-40, n = 6; 41-50, n = 8; 51-60, n = 9; >61, n = 1 Recruited from the general public (Australia)	Experiences of IPV, effects on companion animals, animal details (number, breed, age, etc.), impact of witnessing IPV on animal, details of threats and abuse of animals (devised for this study)	Dogs owned by women, rather than men, were most likely to be abused Participants described long lasting effects on animals behavior due to witnessing IPV
Volant, Johnson, Gullone, & Coleman (2008)	DV group, n = 102; Control group, n = 102 All female adult samples Mean age of DV group = 38.50 (<i>SD</i> = 9.48; range = 23-66) Mean age of control group = 42.06 (<i>SD</i> = 13.25; range = 18-74) DV group recruited from domestic violence support services, control group recruited from the general public (Australia)	Acts of animal abuse; threats to commit animal abuse (interview schedule devised for this study)	Reported rates of partner pet abuse, partner threats of pet abuse and other family members pet abuse were significantly higher in the domestic violence group than the control group

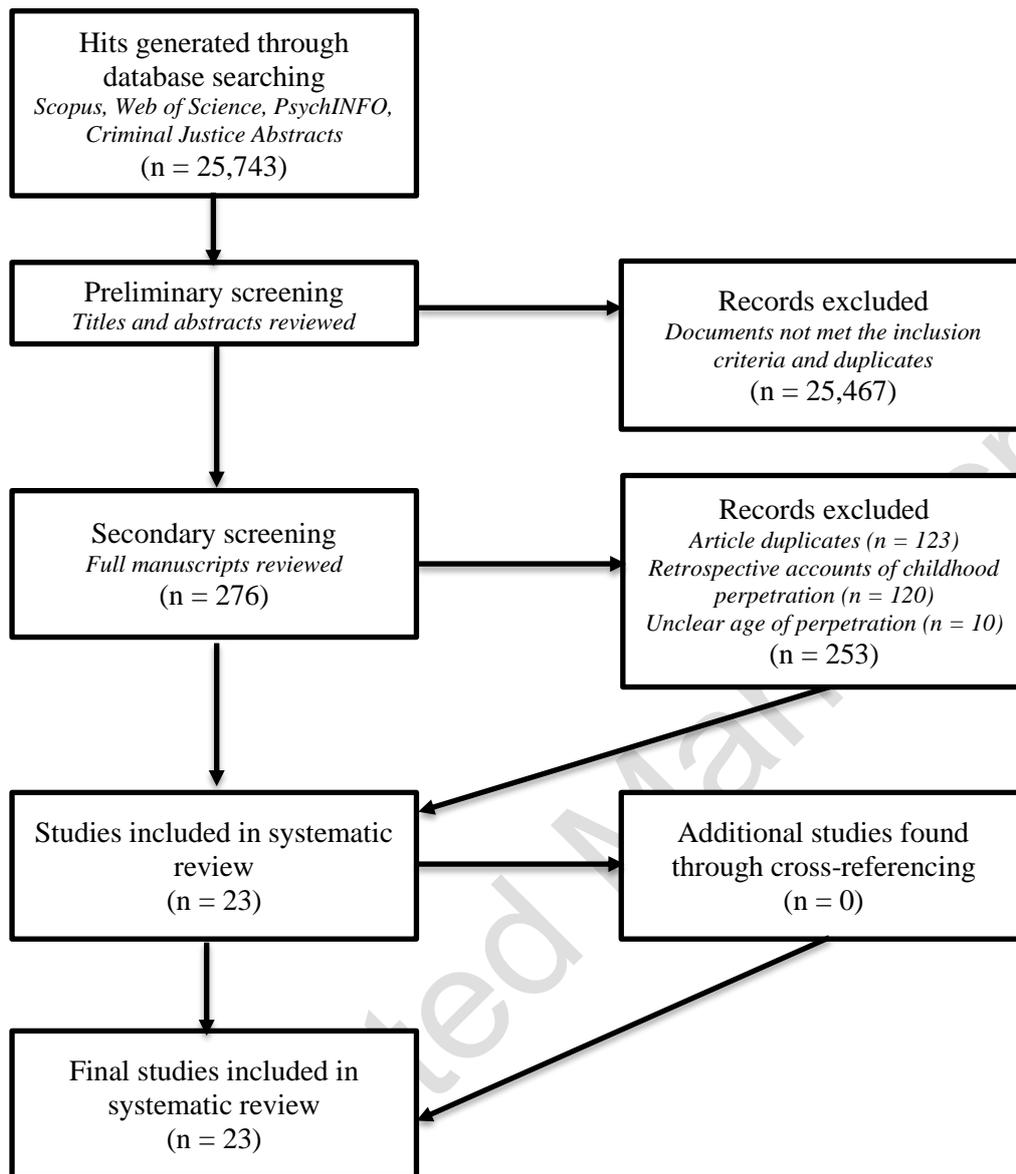


Figure 1. Flowchart of the literature search and study selection process.